



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,604	06/15/2000	HIROKAZU TANAKA	1217-001125	9815

7590 05/12/2004

RUSSELL D ORKIN
700 KOPPERS BUILDING
436 SEVENTH AVENUE
PITTSBURGH, PA 15219-1818

EXAMINER

AHMED, SHEEBA

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/581,604	TANAKA ET AL.	
	Examiner	Art Unit	
	Sheeba Ahmed	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 3, 2004 has been entered.

Response to Amendment

2. Amendments to claims 1 and 2 have been entered in the above-identified application. **Claims 1-14 are pending.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayanoki (US 5,963,373).

Kayanoki disclose a plastic lens comprising a plastic lens substrate
(corresponding to the substrate of the claimed invention) and a hard coating

Art Unit: 1773

applied thereon. The hard coating (***corresponding to the coating liquid and the hard coat film of the claimed invention***) comprises fine particles of a composite oxide (***corresponding to the composite metal oxide particles of the claimed invention***) having an average particle diameter in the range of from 1 to 100 nm (***thus meeting the particle size limitations***) and an epoxy group containing silicon compound (***corresponding to the matrix-forming component of the claimed invention***). The composite oxide is preferably composed of iron oxide, titanium oxide and a silica component. The weight ratio of the iron oxide to the titanium oxide is in the range of 0.005 to 1.0 and the weight ratio of silica to the sum of the iron oxide and titanium oxide is in the range of 0.001 to 1.0. The fine particles are surface treated with an organosilicon compound (***thus meeting the limitations of claims 3 and 6***) (Column 7, lines 25-67 and Column 9, lines 28-30). The hard coating may be provided with a mono-layered or multi-layered anti-reflection film (***thus meeting the limitations of claims 5 and 10-12***) (Column 11, lines 38-43).

Kayanoki does not specifically disclose that the weight ratio of the iron oxide to the titanium oxide may be 0.0005 to less than 0.005 (*as recited in independent claims 1 and 2*) or 0.001 to 0.0045 (*as recited in dependent claims 13 and 14*).

However, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). In this case, it would have been obvious to one having ordinary skill in the art to have expected the same properties (i.e.,

Art Unit: 1773

surface hardness, appearance, adhesion properties) for a hard coat film comprising composite metal oxide particles of iron oxide and titanium oxide wherein the weight ratio of the iron oxide to the titanium oxide is 0.0045 or 0.0045 to less than 0.005.

Response to Arguments

4. Applicant's arguments filed on March 3, 2004 have been fully considered but they are not persuasive. Applicants traverse the above rejection and submit that a hard coat film prepared from the claimed coating liquid exhibits no perceived photochromism or coloration upon weathering when the weight ratio of the Fe_2O_3 to TiO_2 is in the claimed range.

The Examiner had previously taken the position that Applicants have failed to show that one would **NOT** have expected the same properties for a hard coat film comprising composite metal oxide particles of iron oxide and titanium oxide wherein the weight ratio of the iron oxide to the titanium oxide is 0.0045 or 0.0045 to less than 0.005 given that the data in the Declaration under 37 CFR 1.132 filed on June 12, 2003 provided new data points at 0.0005 (the claimed lower limit), 0.0015 (a data point within the claimed range), and 0.0048 (a data point towards the upper limit of the claimed range) and given that the graphical data relating to Photochromism and Water Resistance given on Page 4 of the Request for Reconsideration dated June 12, 2003 indicated that data points at and beyond 0.005 also show water resistance and no evidence of photochromism. Furthermore, the Applicants had stated in lines 3-5 of Page 4 of the Request for Reconsideration that "composite metal oxides having the limited

Art Unit: 1773

weight ratio **(0.0005 to 0.005)** of iron oxide to titanium oxide of the present invention is free from photochromism". In response, the Applicants submit that the confusion about where the data points fall may be due to the logarithmic scale for the x-axis of that graph and the gray area of the graph represents data points between 0.0005 to 0.005 for the metal oxide weight ratio.

The Examiner disagrees. The confusion arises from the fact that it is unclear when a film prepared from the claimed coating liquid starts to show photochromism and color from weathering -- the Applicants have stated in lines 3-5 of Page 4 of the Request for Reconsideration dated June 12, 2003 that "composite metal oxides having the limited weight ratio **(0.0005 to 0.005)** of iron oxide to titanium oxide of the present invention is free from photochromism". However, the data point at 0.005 is outside the claimed range (i.e., less than 0.005) and hence the Applicants have not shown that the two ranges (the claimed range and the range of the prior art) have significantly different properties.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (571)272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1773

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sheeba Ahmed
Art Unit 1773
May 10, 2004